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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/723,697 | 11/28/2000 | Yang T. Shieh | A1114/20006 | 7614 |

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CAESAR, RIVISE, BERNSTEIN,
COHEN & POKOTILOW, LTD.
7 Penn Center - 12th Floor
1635 Market Street
Philadelphia, PA 19103-2212

EXAMINER

AFTERGUT, JEFF H

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1733

DATE MAILED: 05/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/723,697

Examiner

Jeff H. Aftergut

Applicant(s)

SHIEH, YANG T.

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period of Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 07 April 2003.

2a) ☒ This action is **FINAL**.

2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) 1-20 and 26 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 21-25 and 27 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Passonen et al (US Patent 5,601,920) in view of either one of Watanabe (US Patent 4,368,568) or Fukuyama and either one of Brookstein or Paul, Jr. for the same reasons as expressed in paper no. 8, paragraph 4.

With regard to the requirement of "low viscosity resin" for the impregnating resin, the references all suggested the use of epoxy resins in the resin infusion operation, see Passonen et al '920 at column 6, lines 14-16, Brookstein at column 4, lines 27-32, and Paul at column 4, lines 51-66. Clearly, one skilled in the art would have known to select a suitable "low" viscosity material for the resin in the infusion operation. The references to Watanabe (US Patent 4,368,568) or Fukuyama suggested the application of continuous windings as the reinforcing layers to the rolls and provided reasons (increased compressive strength) as to why one would have utilized the same. Applicant is referred to paper no. 8, paragraphs 3 and 4 for a more complete discussion of these references.
3. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 2 further taken with either one of McGaughey et al or Francis for the same reasons as expressed in paper no. 8, paragraph 5.
4. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 2 further taken with McLain et al (newly cited).

While the references to Watanabe '568 or Fukuyama suggested that those skilled in the art would have utilized wound unidirectional layers wherein the fibers were wound to be closely packed in their arrangements, the references failed to teach that those skilled in the art at the time the invention was made would have incorporated both hoop (circumferential windings which were perpendicular to the axis of the shaft) as well as longitudinal windings (which were parallel to the axis of the shaft) in the same assembly. It should be noted that the reference to Watanabe '568 suggested that those skilled in the art would have employed nonwoven layers in the reinforcement (which were known per se to have randomly oriented fibers therein). The reference failed to teach that those skilled in the art would have incorporated longitudinally disposed fibers in the arrangement (i.e. fibers oriented along the longitudinal axis of the assembly). However, those skilled in the art of filament winding and more particularly of filament winding to reinforce a product, would have understood that the use of plural layers wherein the orientation of the fibers from one layer to the next varied was within the skill level of those in the art of reinforcing via filament winding (and more particularly, one skilled in the art would have understood what type of reinforcement to provide for the end products dependent upon the angle of the reinforcement to provide the requisite strength in the finished wound assembly) as suggested by McLain. McLain suggested that to provide the desired reinforcement in a finished wound assembly one skilled in the art would have provided layers which were separate layers and which were a combination of hoop windings, longitudinal windings, and helical windings, see column 6, lines 13-26, for the hoop windings, column 6, lines 54-68 for the longitudinal windings, and column 6, lines 43-53 for the arrangement of helical windings. Clearly one skilled in the art would have understood to provide different wound layers at different angles in order to

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impart the desired strength to the finished assembly (as required by the customer) where one filament wound to form a roll cover material. Note that one skilled in the art would have understood that various combinations of layers would have been available with none but the expected benefits associated with the angle of reinforcement applied. It would have been obvious to one of ordinary skill in the art to apply multiple layers of reinforcement wherein the layers would have been provided to provide the desired degree of reinforcement needed in the finished assembly as suggested by McLain in the process of making a covered roll wherein various layers of reinforcement were used to make the assembly as taught by the references as set forth above in paragraph 2.

Election/Restrictions

5. Claims 1-20 and 26 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention (claims 1-20) and species (claim 26), there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

Response to Arguments

6. Applicant's arguments with respect to claims 21-25 and 27 have been considered but are moot in view of the new ground(s) of rejection.

The applicant argues that the reference to Passonen et al failed to teach the use of a packed unidirectional reinforcing layer which was wound for formation of the cover material for the roll. While it is correct that Passonen et al employed a different layer of material for the reinforcement in the roll disclosed therein, the reference to either one of Watanabe '568 or Fukuyama suggested that those skilled in the art at the time the invention was made would have

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known to employ continuous windings which were disposed helically and/or circumferentially (hoop) about the core in order to improve the compressive strength of the roller assembly. Clearly, one skilled in the art at the time the invention was made would have understood to apply the reinforcement about the roll in tightly packed arrangement and followed the same with impregnation to form a reinforcing layer in a roll. It should be noted that neither one of Watanabe '568 or Fukuyama suggested vacuum impregnation to provide for the resin in the reinforced layer, however, impregnation after application of a dry reinforcement was known in the art as envisioned by Passonen et al. the applicant is advised that the use of vacuum to assist in the infiltration of the resin was known per se as suggested by Brookstein or Paul, Jr. as previously discussed in paper no. 8. The applicant is advised that one cannot show non-obviousness by attacking references individually where rejections are based on combinations of references under 35 USC 103, see In re Keller, 208 USPQ 871. The applicant is advised that here there was ample motivation to employ a varied reinforcement including a wound layer of closely packed fibers about the core as such would have provided for increases in the compressive strength of the finished assembly.

Regarding new claim 27, the applicant is advised that those skilled in the art of winding would have known how to alter the layers to provide a finished assembly with the requisite strength as a function of the orientation of the filaments in the winding operation and would have known to provide various layers including circumferentially disposed filaments as well as longitudinally disposed filaments within separate sublayers. The reference to Watanabe '568 suggested that those skilled in the art at the time the invention was made would have incorporated nonwoven layers within the reinforcing assembly (such nonwoven layers were

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known to have randomly disposed filaments therein as such is a function of a nonwoven fabric and how the same is manufactured). The applicant is advised that one skilled in the art would have known how to modify the references to attain the desired strength in the finished assembly as a function of the demands of the consumer and the intended use of the roller and such is nothing more than the common sense application of known filament winding techniques in the manufacture of a roller, In re Bozek, 163 USPQ 545.

The applicant did not address the references other than Passonen in the response and it is therefore believed that applicant agrees with the Office interpretation of these references. The applicant is advised that the use of continuous tightly packed filaments disposed at least in the hoop or circumferential direction was known per se and that the impregnation of such a reinforcing layer via vacuum infusion was additionally commonplace in the roller manufacture art. There is no unexpected benefit (note that the orientation of the layers at various angles within the sublayers to attain a specific reinforcement benefit would have been expected) provided by applicant's claimed operation. No claims are allowed.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

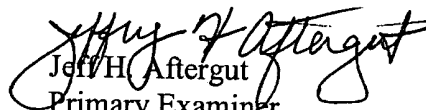
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 703-308-2069. The examiner can normally be reached on Monday-Friday 6:30-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W. Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
May 11, 2003